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ABSTRACT

A classroom observation rating scale, based upon a recent analysis of the literature and conceptually verified by open education advocates, effectively differentiated British and American open classrooms from American traditional classrooms. The influence of socio-economic settings was also demonstrated. For the three comparison groups, more features of open education were found in higher socio-economic settings than in lower ones. Rater-reliability for the classroom observation measure was high. The classroom observation rating scale is recommended as a survey instrument in a school system that is beginning to experiment with open education. Baseline data can be gathered and the measure can be repeatedly used to chart changes in classroom practices. A teacher questionnaire, parallel in form to the classroom observation rating scale, may be used in workshops as a starting point for a dialogue about teaching. Both measures can be considered as initial steps in adding greater theoretical precision and empirical understanding to the concept of open education. (Author)

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Characteristics of Open Education:

Results from a Classroom Observation Rating Scale and a Teacher Questionnaire

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JTE

Abstract

A classroom observation rating scale, based upon a content analysis of the literature and conceptually verified by open education advocates, effectively differentiated British and American open classrooms from American traditional classrooms. The influence of socio-economic settings was also demonstrated. For the three comparison groups, more features of open education were found in higher socio-economic settings than in lower ones.

Rater-reliability for the classroom observation measure was high. The classroom observation rating scale is recommended as a survey instrument in a school system that is beginning to experiment with open education. Baseline data can be gathered and the measure can be repeatedly used to chart changes in classroom practices.

A teacher questionnaire, parallel in form to the classroom observation rating scale, may be used in workshops as a starting point for a dialogue about teaching. Both measures can be considered as initial steps in adding greater theoretical precision and empirical understanding to the concept of open education.

I. INTRODUCTION

"Open education," "integrated day," "Leicestershire model," and "activity-centered learning" are used to describe an educational approach which is established in Great Britain and is growing in the United States, especially among elementary school practitioners.

Advocates of "open education" stress an environment of manipulative materials, choice for students, and flexibility in the use of time, space, materials and school requirements. At the heart of this movement is a philosophy of education which is reminiscent of the American progressive era. Open education has not only been influenced by the current trend in British educational reform but also by a timeless amalgamation of values, such as respect for children, honesty, trust, and an image of teachers who seek opportunities for personal growth.

This investigation sought the answers to four questions: 1) Could distinctive features of open education be derived from the literature? 2) Were there characteristics of the open classroom which open education theorists and practitioners could agree upon as essential? 3) Could a classroom observation rating scale be constructed that would distinguish open classrooms from traditional ones? Did the attributes

of open education more frequently appear among classrooms selected from middle and upper-middle socio-economic settings than in classrooms in lower and working class settings? It was expected that middle and upper-middle class open classrooms would show higher scores on the classroom observation rating scale than working and lower class open classrooms.[1]

The reader of current articles and books about open education is perhaps left with an uneasy feeling that only exceptional teachers are being described or that an unobtainable picture of teaching is being presented. Another cause for confusion is the eclectic use of the term, open, for anything that is an innovation, i.e., adoption of a new school program, individual instruction, team teaching, affective education, or architectural changes. To equate open education with many different contemporary educational practices may cause the knowledge, experiences, and learnings of open education proponents to be misunderstood or rejected by people who are responding to stereotypes. Its critics call it vague (Etzioni, A., 1971), while its adherents continue to write about it at an

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1 See Kohn, Melvin (1969) for an excellent summary of different child-rearing values according to socio-economic status. Briefly, he discusses two polar sets of values; one set emphasizes self-direction and internal standards of behavior and the other set stresses authority and externally imposed standards. The first set is characteristic of middle class groups while the latter is more frequently associated with lower or working class groups, according to Kohn's analysis.

increasing rate (Silberman, C., 1970; Barth, R. and Rathbone, C., 1971; Featherstone, J., 1971; Murrow, C. and L., 1971).

One difficulty in analyzing open education is that it is conceived of as an evolutionary process; that is, change is always occurring. Static models, or even educational models per se, prescriptions, given sets of definitions, or the use of behavioral objectives are deliberately avoided by open education advocates. Instead, emphasis is given to the unique child, specific events, the intuitive reactions of teachers and students engaged in the process of learning. The key work is process. Eisner's succinct analysis of expressive and instructional objectives is pertinent:

> Expressive objectives differ considerably from instructional objectives. An expressive objective does not specify the behavior the student is to acquire after having engaged in one or more learning activities. An expressive objective describes an educational encounter: it identifies a situation in which children are to work, a problem with which they are to cope, a task they are to engage in--but it does not specify what from that encounter, situation, problem, or task they are to learn. An expressive objective provides both the teacher and the student with an invitation to explore, defer or focus on issues that are of peculiar interest or import to the inquirer. An expressive objective is evocative rather than prescriptive.[2]

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2 E. Eisner. Instructional and expressive educational objectives: Their formulation and use in curriculum. In AERA Monogram Series on Curriculum Evaluation: Vol. 3, Instructional Objectives. Chicago: Rand McNally, 1969, pp. 15-16 as quoted by Bussis & Chittenden, 1970.

Eisner's distinction is useful in highlighting open educators' concern with expressive objectives as opposed to researchers' use of instructional objectives. Researchers often use only performance measures such as intelligence and achievement scores to evaluate their work. In assessing open education, an important initial stage is determining whether open classrooms are operating as their proponents suggest.

Because open education is relatively new in the United States, this study focused upon identifying and measuring features of the learning environment rather than evaluating the relative "success" of open classrooms. If one is interested in educational outcomes of open classroons, the careful, longitudinal studies of achievements of children in British integrated day classrooms by D. E. M. Gardner (1950, 1965, 1966) are documents which present important research findings and guidelines. As open classroom processes become better identified, it seems reasonable to expect that a variety of outcome measures, similar to ones used by Gardner, will be employed to satisfy questions raised by parents, educators, and teachers about the long-term effects of open education.[3]

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[3] Gardner's overall findings were favorable for the British integrated day classrooms compared to British traditional classrooms, although the traditional classrooms were not as carefully selected as the experimental, integrated day classrooms.

II. METHOD

A. Construction of Open Classroom Measure

There are two basic ways to measure classroom environments: 1) low inference categorical systems and 2) high inference rating scales. The former are generally preferred by researchers (Simon and Boyer, 1967) since it is easier to systematically count specific, discrete units of behavior; for example, the number of open-ended questions the teacher asked or the number of directions given. Rating scales stress more global characteristics, such as enthusiasm, creativity, intellectual stimulation, which are high inference items and difficult to define operationally. When observers are given appropriate training, rating scales can achieve a high degree of inter-rater agreement, effectively discriminate among groups (Rosenshine, 1970), and perhaps have a meaning closer to the reality of the phenomena observed than do categorical systems. A rating scale was used for this study because preliminary observation instruments revealed that many materials and frequent movement from one activity to another within open classrooms could not be easily or reliably counted within a two-hour observation period.

The rating scale structure was suggested by a recent report by Bussis and Chittenden (1970) which identified ten dimensions as potentially valid indices of open education. For this study eight of the ten dimensions were isolated (Walberg and Thomas, 1971). To establish the content validity of these major dimensions, items indicative of each were identified, based upon quotations taken from the literature. The eight dimensions were:

1. Provisioning for learning: flexibility in the organization of instruction, materials.

2. Diagnosis: less attention to goals, such as examination scores, and more attention to the child's thinking process.

3. Instruction: much individual attention rather than solely total class instruction, encouragement of children's initiative and choice, interdisciplinary emphases.

4. Evaluation: individual standards or goals preferred to comparing the child to standardized achievement norms. Record-keeping often done in order to evaluate growth rather than correctness.

5. Humaneness: teachers have characteristics such as respect for children, openness, and warmth.

6. Seeking opportunities to promote growth: extensive use of community, colleagues, advisors.

7. Assumptions: ideas about children and the process of learning. Many ideas are stressed such as children's innate curiosity, trust in children's ability to make decisions, and so on.

8. Self-perception of the teacher: a sensitive, adaptable, continual learner who sees himself as a resource for helping children reach their own potentials rather than seeing himself as a disseminator of a given body of knowledge.

A 106-item questionnaire was sent to forty-one open education "experts" who had written articles and books about open education, were frequently quoted in the media, or were involved in open education projects. They were asked to rate each item as "very important," "relatively important," or "not important" for open education. Twenty of the experts returned the questionnaire and another ten sent letters giving general reactions to the questionnaire or explaining why they could not complete it. Extensive interviews were also held with several experts in order to clarify conceptions or to reduce confusion in the wording of items.

After carefully reviewing the responses from the questionnaire, and evaluating the general comments made by the experts, a 50-item classroom observation rating scale was constructed. Half of the items were drawn from the Provisioning for learning dimension. and half were selected from the remaining seven dimensions. All the dimensions did not receive the same emphasis because of criticisms of many open educators and reservations of the research staff about the nature of certain dimensions. For example, the items written for Humaneness or Assumptions about children's learning were often considered platitudes or cliches. Further research might analyze the relative importance of each dimension in differentiating open versus traditional classrooms; but for this study, the total score based upon all eight dimensions was used.

Classroom observers used a four-point scale for each of the 50 items. A 4 rating meant strong frequent evidence of the characteristic, a 3 meant moderate occasional evidence, a 2 meant weak infrequent evidence and a 1 meant no evidence or anegative case of the characteristic. In order to avoid a response set, opposite statements about open classroom characteristics were also constructed. In determining the mean scores for the total observation ratings, all scores for statements identified with traditional classrooms were rotated so that a high score on all of the items would be considered indicative of an open classroom while a total low score would reflect a traditional classroom. (See Appendix A for the scoring key and Appendix B for the classroom observation rating scale)

To check the concurrent validity of the observation measure, teachers who were observed were asked to complete a questionnaire of 50 items parallel in meaning with the classroom observation items. An example of one of the parallel items is number 17; on the classroom observation form it reads, "Teacher prefers that the children not talk when they are supposed to be working." On the teacher questionnaire it is, "I prefer that children not talk when they are supposed to be working." A copy of the teacher questionnaire is provided in Appendix C. The same scoring procedures used for the classroom observation measure were used for the teacher questionnaire.

B. Sample Selection

The three comparison groups of classrooms (21 U. S. traditional, 21 U. S. open, and 20 British open) were drawn from a wide socio-economic range. Children in these classrooms were between the ages of five and eight. U. S. traditional classrooms were matched against U. S. open classrooms on the basis of age level, locale, socio-economic status, racial and ethnic composition, and public or private school status. The same procedures were used for selecting classrooms in England. U. S. Classrooms were selected from one mid-western and two eastern cities; British classrooms from four major cities in England. To insure that there was a comparable esprit de corps for the traditional, or perhaps more accurately called "unaligned" classrooms, school administrators and educational consultants recommended classrooms which were considered exemplary traditional rooms. First year teachers were not included in the study; and open classroom teachers were selected only if they had used an open classroom teaching style for at least one year.

Approximately half of each comparison group was drawn from a working and lower class population and half from a middle to upper-middle class population. For overall comparisons, the United States sample

represented a greater socio-economic range than the British sample because upper-middle class private schools were used in the two U.S. groups, whereas no private school classrooms were used in the British sample.

In the United States, each classroom was visited by an individual observer three times; in England, because of time constraints and economic considerations, each classroom was visited only twice. At least two different observers visited each classroom. In the United States, classrooms were visited during the latter part of March and the entire month of April, 1971. The English open classrooms were visited at the end of April and during the first week of May, 1971. The British observations were done immediately at the start of their second school semester. This is important to note because items designed to assess student initiative and an abundance of student-made products may not have been fully assessed since new student projects were just getting started.

C. Training Classroom Observers

There were differences in the selection, training, and composition of classroom observers for the United States and England. The United States' training sessions were more rigorous than those conducted in England because the research staff had better training facilities, convenient access to schools, and more contacts for attracting temporary

classroom observers.

In the United States, a research staff composed of three women conducted an intensive three-day training and screening program for thirteen women who applied for temporary classroom observers positions. Two part-time researchers, who were familiar with the study, were trained along with the 13 applicants. All of the individuals trained were white, college-educated women, between the ages of 22 and 45.

Separate reliability analyses were done for the research staff and for those trained and hired temporarily to do classroom observations. Because the research staff had been involved in designing the study and had "inside" information about the chosen schools and teachers--the research staffs' scores are reported as "inside observers," the others as "outside observers."

Care was taken during the training period not to reveal the purpose of the study. Observers were told that the research staff were withholding information in order not to bias their perceptions and to avoid having them discuss details of the study with the participating teachers. If questioned by the teachers, they were told to say that they were participating in a study of contemporary classroom practices of excellent teachers. The words, "experimental," "control,"

"traditional," and "open," were not used by the research staff during the training period or in the actual study.

Films of open and traditional classrooms were shown the first day of the training session. The classroom rating scales were discussed when observers rated each film. The next two days, trainees in pairs visited an open classroom and a traditional classroom and used the classroom observation measure under actual classroom conditions. Observer ratings for the two films and two field visits were collected for purposes of screening applicants and for gathering preliminary observer rater-reliability data.

Eleven of the thirteen applicants and five members of the research staff were used in the study. Two applicants were eliminated from the study because of unreliable rating scores. About one-fourth of the observations in the United States were made by "inside" observers, the remaining three-quarters by the "outside" observers.

In England, one research staff member trained the two "outside" observers during a one-day training session by carefully reviewing the classroom observation rating scale. Neither films nor field visits were used. Two "outside" observers, both women, were recommended by British officials and educators as being perceptive, conscientious individuals, familiar with the open education concepts.

Because the British "outside" observers were chosen on the basis of their familiarity with the open education approach, the purpose of the study was not disguised for them as it was for U. S. "outside" observers. A total of two "inside" observers and two "outside" observers visited all of the English classrooms.

III. FINDINGS

A. Description of Sample

Observers' records were used to gather background information about class size and the number of adults present in the classroom. The teacher questionnaire was used to provide teacher's age, educational background, and to determine whether the children were from the same or mixed age groups.

The class size differed significantly for the three comparison groups. (F = 51.388, df 2.59, $p < .001$) There were more children in the British open classrooms than in the other two groups; i.e., in the U.S. traditional classrooms, the mean number of students present was 19.8 with a standard deviation (s.d.) of 3.64; the U.S. open was 20.8 with an s.d. of 3.55; and the British open was 31.8 with an s.d. of 4.35. Class size was probably constant for all groups despite the fact that some children were not counted because they were either absent or out of the room when the observers recorded the number of children present.

The U.S. open classroom had significantly more adults present than either the U.S. traditional or British open classrooms, i.e., more teacher aides, student teachers, parents, and unidentified visitors. (F = 16.893, df 2.59, $p < .001$) Including teachers, in the U.S. traditional classrooms there were 1.71 adults (s.d. 1.56); U.S. open, 2.49 adults (s.d. 0.94); and British open, 1.35 adults (s.d. 0.77). The ages of teachers in the three groups were not significantly different. The U.S. traditional teachers' mean age was 34.8; the U.S. open teachers' age was 35.2, and the British open teachers' age was 32.6.

The British teachers held significantly more normal school or teacher college degrees than the U.S. teachers, traditional and open, who held more master's degrees. (X^2, df 4, $p<.001$) Thirty-eight percent (8 of 21) U.S. open classrooms and thirty-five percent (7 of 20) British open classrooms contained children of mixed ages. There were no mixed age groups in the U.S. traditional classrooms.

B. Item Analysis

Point bi-serial correlations for individual scores with two variables, open or traditional labels, showed that 43 items differentiated the two open classroom groups from the traditional group on the classroom observation rating scale.

The items which correlated significantly with the open classroom variable show that open classrooms demonstrated more variety in the use of materials and activities and more flexibility in grouping and scheduling procedures. The children talked and moved about the room more frequently and seemed to be more deeply involved in what they were doing than children in traditional classrooms.

The traditional classes, by contrast, showed greater concern with academic achievement, used tests for evaluation purposes and standardized curriculum. The children in the traditional classrooms seemed to expect the teacher to correct much of their work and the teachers preferred the children not to talk as they worked or to move about the room. See Appendix D for the complete list of items and the point bi-serial correlations.

It is useful to note that of the seven non-discriminating items two (No. 12 and No. 15) were drawn from the Provisioning category; two (No. 35 and No. 47) were from the Evaluation category; one from Seeking (No. 44); one from Humaneness (No. 40); one from Instruction (No. 22). The seven items as a whole appear to be of a more highly inferential nature than many of the more objective statements on the measure. Only two of the 25 Provisioning items were found to be non-discriminating and they appear to be more subjective than others in the Provisioning category.

One item, No. 40, "The teacher is in charge," merits special attention. This item was inserted into the rating scale following criticism of the preliminary questionnaire. Many open educators felt that items about open classroom teachers suggested a laissez-faire and irresponsible quality. The mean observation scores on No. 40 for all three groups substantiated open educators' avowal that the open classroom teachers are responsible and do not abdicate authority (U.S. traditional, 3.63; U.S. open, 3.55; and British, 3.70).

Seven items on the teacher questionnaire, Nos. 22, 35, 37, 38, 40, 44, and 47, did not correlate with the variables open or traditional.

Five of these items, Nos. 22, 35, 40, 44, and 47, were also non-discriminating items for the observation measure. See Appendix E for item means and point bi-serial correlations for the teacher questionnaire.

The teacher questionnaire total scores were correlated with the total scores for classroom observations. For the full sample of 62 classrooms there was a highly significant correlation of .782. For each classroom group the correlations between the total questionnaire scores and the total observers' scores were: U.S. traditional, .747; U.S. open, .369; and British open, .177. The correlations for each group were of a smaller magnitude than for the total sample probably because each classroom group was more homogeneous than the combined total sample.

The reliability of the teacher questionnaire, using Cronbach's alpha method was: for the total sample, .916 with a standard error of measurement of 5.26; for the U.S. traditional group, .848 with a standard error of measurement of 5.26; and for the British open group, .836 with a standard error of measurement of 4.86.

C. Rater-Reliability

Classroom rater-reliability for the rating scale was determined by Cronbach's alpha method. Table 1 shows that the reliability scores for "inside," "outside," and combined groups of observers were quite high.

TABLE 1

Rater-Reliability Coefficients for Actual Study

Condition	Inside Observers	Outside Observers	Total
U.S. Open Group	.721	.923	.930
U.S. Traditional Group	.932	.807	.864
British Open Group	.848	.902	.876

Table 2 shows that during the training sessions the "inside" observers had consistently higher reliability scores than the "outside" observers although both groups had unreliable scores for the open classroom field testing. The very high reliability scores for both groups during the actual study shows a marked improvement.

TABLE 2

Rater-Reliability Coefficients for Training Sessions

Condition	Inside Observers	Outside Observers	Total
U.S. Traditional, film	.913	.610	.745
U.S. Open, film	.882	.509	.659
U.S. Traditional, field practice	.911	.786	.802
U.S. Open, field practice	.032	-.075	-.085

D. Analysis of Variance

A 3x2 analysis of variance (groups by socio-economic status) showed that there was a highly significant difference among the three comparison groups as well as a significant socio-economic effect. See Table 3.

TABLE 3

Analysis of Variance of Open Classroom Observation Measure for Three Classroom Groups by Socio-Economic Status

Source	df	MS	F	P
Socio-Economic Status (SES)	1	1331.46	5.94	.0180
Group	2	14034.80	62.63	.0001
SES x Group	2	275.75	1.23	.3000
Error	56	224.13		

According to the results of the open classroom measure, both the U.S. and British open classrooms were significantly different from the U.S. traditional classrooms ($p < .01$), while no significant differences were found between the British open and the U.S. open classrooms.

There was a great amount of variability for all three groups as seen in Figure 1. The observation mean scores could theoretically range from zero to 200, with 200 being the "ideal" open score. The mean score for the U.S. traditional group was 117.46 with a standard deviation of 19.59; the U.S. open scores was 163.17, 14.08; and the British open was 160.80, 13.07.

Many of the classrooms in all three groups had similar scores. For example, six U.S. traditional classrooms, four U.S. open, and seven British open classrooms had scores between 130 and 154. However, for 68 percent of each group (one standard deviation) the classroom observation scores did not overlap between the two open classroom groups and the U.S. traditional group.

Figure 2 illustrates the analysis of variance finding that there was a significant socio-economic effect, i.e., more open classroom features would be found in middle and above classroom groups than

would be found in comparable classrooms from a working and lower class socio-economic setting. Within all three groups the middle and above socio-economic groups had higher mean classroom observation scores.

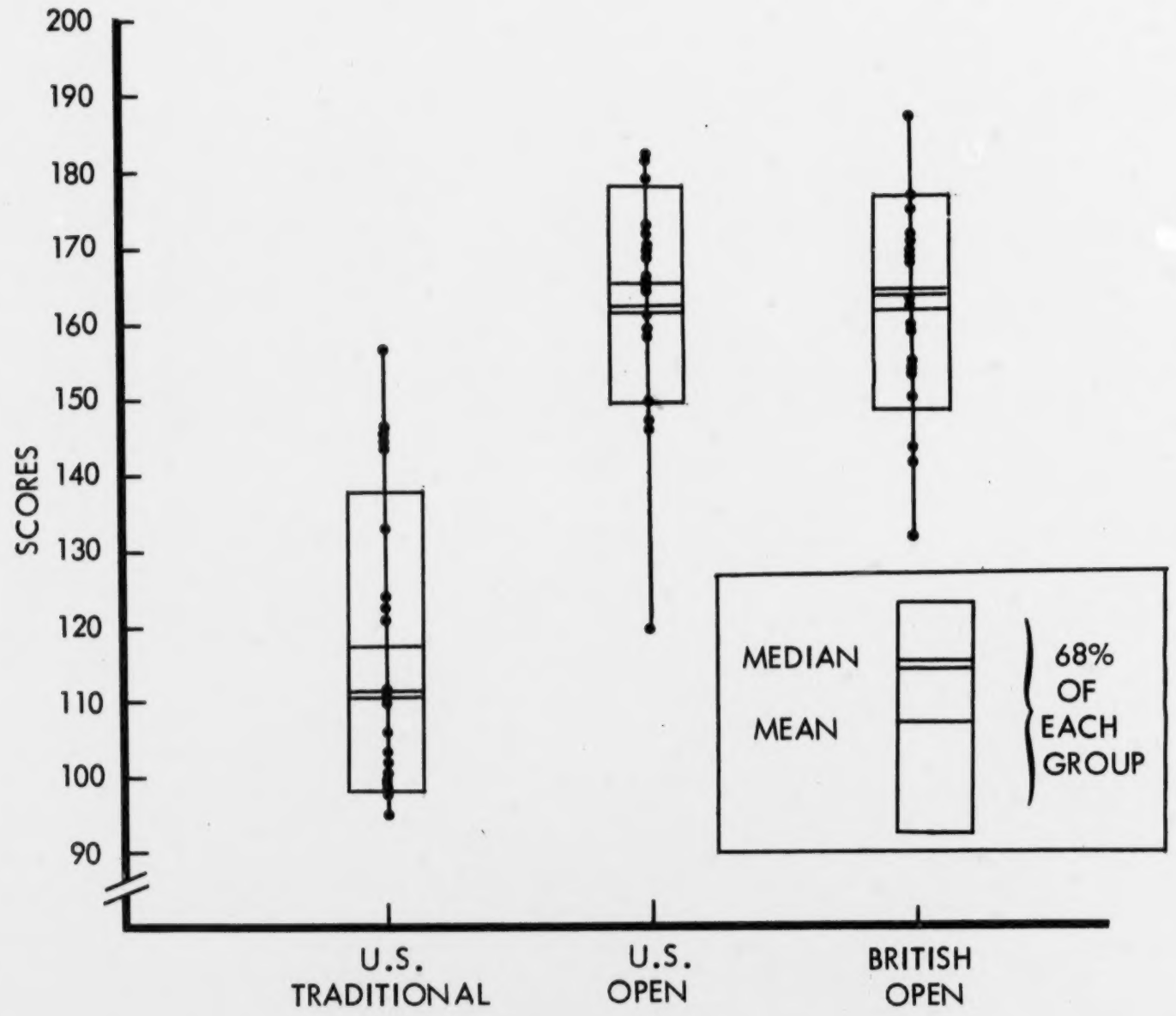

Figure 1. - Average of observer ratings for each U.S. traditional, U.S. open, and British open classroom

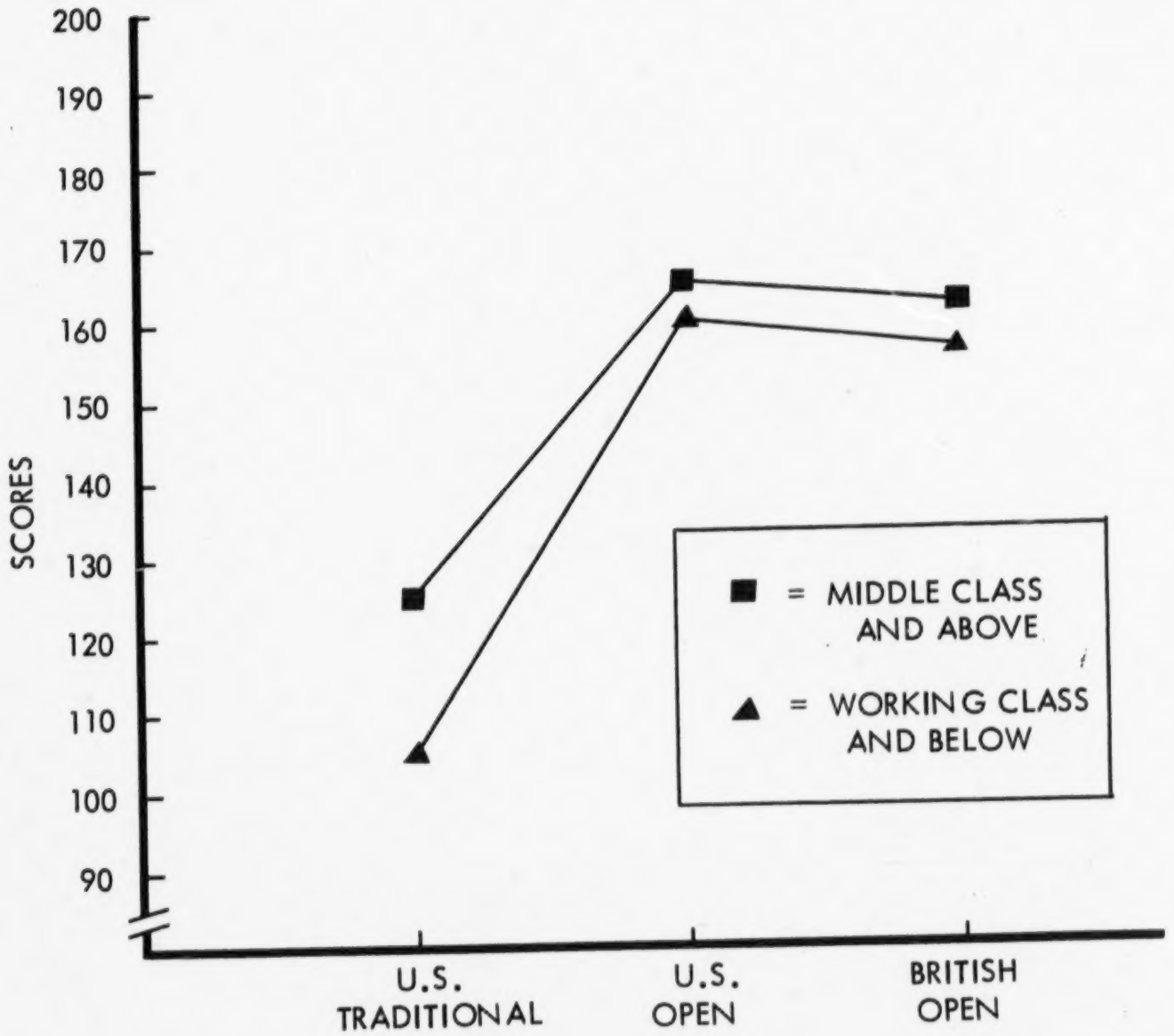

Figure 2. - Mean observation scores for U.S. traditional, U.S. open, and British open classrooms by socio-economic status

IV. DISCUSSION

The classroom observation rating scale effectively demonstrated that two different pedagogical styles could be theoretically identified on the basis of the literature and empirically verified in the field. This general finding tends to refute the common assertion that open education is vague and imprecise.

The rating scale showed that expectations for children, the physical arrangement of classrooms, the role of the teacher, the use of curriculum materials and tests, the direction of activities, the use of time and priorities for children were fundamentally quite different for the open and traditional groups.

The traditional teachers were much more in control of the learning environment with regard to organizing the child's use of time, materials, space, and the curriculum to be studied. They expected children not to talk while working, nor to move about without asking permission. The physical environment was uniformly arranged so that children could conveniently see the blackboard or the teacher from their desks. The teacher stressed keeping all children within

his sight so that he could make sure they were doing what they were supposed to do. In general, the children were supposed to use standardized curriculum materials and the teacher gave academic achievement a top priority. Testing was used by the teachers for grouping the children and for grading them in comparison with their peers.

The open classroom teachers, by contrast, allowed the children more freedom in the use of time, choice of activities, and ways of working. The children worked individually and in small groups at various activities, which often involved the use of manipulative materials. The children used "books" written by their classmates as part of their reading and reference materials, and often children spontaneously looked at and discussed each others' work. The teacher concentrated his time with the children by providing intensive diagnostic help rather than giving whole group instruction. Children were encouraged to use other areas of the building and school yard during school time. The children seemed deeply involved in what they were doing.

More individualized record-keeping was expected for the open classrooms because the literature stressed the value of this form of evaluation as an alternative to traditional testing. However,

keeping notes and writing individual histories of each child's intellectual, emotional, and physcial development was found only occasionally in the open as well as traditional classrooms.

Another major finding concerns the influence of the socio-economic setting upon classroom characteristics. More features of open education were found in upper socio-economic classrooms for all three comparison groups; and it should be noted that the lower socio-economic open groups in England and in the United States had more features of open education than did the higher socio-economic traditional groups.

It is important to recognize several limitations to this study and to distinguish where the use of the 50-item rating scale is appropriate, and where it is not appropriate.

First, the rating scale was not designed to assess all the differences among the British open, U.S. open and U.S. traditional classrooms. For example, it appears that there are more students in British primary classrooms than in either of the U.S. classroom groups, but far more adults were present in the U.S. open classrooms than in the other two groups. Quite possibly the U.S. open classrooms are attracting more student teachers, aides, visitors, and parents because open education is a novelty in the United States.

Second, some of the items describing the open classroom also describe what traditional educators would value as good teaching practices. This is particularly true of the more inferential items, such as item 25, "The teacher promotes a purposeful atmosphere...;" item 30, "The emotional climate is warm and accepting;" and item 50, "The children are deeply involved in what they are doing."

Third, the socio-economic setting is just one of many variables influencing educational practice. The finding that the higher the socio-economic setting of a school, the greater is the likelihood that more features of open education will be present is subject to qualification. In this study, three of the top four classrooms in the U.S. open sample were from black, inner-city schools. According to observers and research staff members, these top-rated classrooms probably illustrate the effects of a committed staff, approval of school administrators, as well as the support of informed, sensitive advisors.

Fourth, many methodological improvements could have been made, such as more classroom visits, an equal number of visits for both U.S. and British classrooms, similar training procedures for U.S. and British observers, and greater care in the selection of British classrooms and in the timing of the visits in England.

Finally, we need to ask why both groups of observers demonstrated high reliability scores during the actual study when they had scored so much lower for the open classroom field training. There may be three reasons for this discrepancy: (1) two observers who had very unreliable scores during the training session were not used in the actual study; (2) several observers who had moderately unreliable training session scores were given additional tutoring in the use of the measures; and (3) as all the observers visited a wide variety of classrooms, the definitions of each item and how it should be rated became clearer and ratings more consistent. Great care, therefore, must be taken in both the selection and training of observers.

When and where can the classroom observation measure be used? The rating scale is probably best used as a survey instrument in a school system that is beginning to experiment with open classroom techniques. It is less reliable as a diagnostic measure for individual classrooms. An experienced observer can rate the 50 items in only a few minutes, making it possible for baseline data to be gathered and changes charted over a period of time in a large school system.

It must be remembered, however, that the measure was designed for primary grades and therefore, may not be appropriate with other normative groups. Furthermore, the items cannot be expected

to produce diagnostic insights one could expect of an experienced advisor who observes a single classroom over a long period of time. Any kind of fixed format, such as that used in the rating scale, does not allow for the individual counseling most teachers would like. Something tailor-made to teachers' problems, goals, and teaching styles, as well as organizational constraints, demands the kind of imaginative, professional insights of a sensitive observer who tries to understand the gestalt of the classroom. Certainly the classroom rating scale could be used by such an observer as a check list for points to consider in talking with teachers.

The rating scale, while useful in discriminating open from traditional classrooms, does not effectively discriminate key features of outstanding open classrooms, i.e., a "low ceiling effect" is probably operating because several open classrooms had extremely high scores on the rating scale.

Some researchers or school personnel may not have the time or money to train observers to use the classroom observation measure. An obvious question is therefore, "Can I have the teacher use the teacher questionnaire to rate himself?" The answer is "yes" and "no."

Yes, the teacher questionnaire can be used for self-evaluation. The teacher may find it helpful to look at a variety of specific classroom characteristics or a number of teachers at a workshop or given school may use it as the basis for a dialogue about their teaching. However, if one wants an objective evaluation, the answer is "no." If teachers insist upon using the questionnaire as an objective pedagogical test, they are not using it properly. Questionnaires of any kind can easily be "faked." Furthermore, there is always an error factor associated with testing.

One can use the standard error of measurement for a test to estimate the parameters around which the "true" scores should lie sixty-eight percent of the time. For example, in this study for the total sample, the standard error of measurement of the questionnaire was 5.96. If a teacher received a measure score of 150 on the questionnaire, it is likely that his true score would probably be plus or minus 5.96 points, or usually between 144.04 and 155.96. However, probability does not guarantee that his true score will fall within this range. The teacher questionnaire scores differed by as much as 25 points from the observers' averaged ratings. An evaluation study that compares teacher questionnaire scores with observers' scores could give teachers feedback about discrepancies in how they saw their classrooms as opposed to how observers viewed them.

To summarize, the classroom observation rating scale may be valuable for gathering baseline data in school systems which are trying to adopt and measure key features of open education; the teacher questionnaire may be useful for teachers in a workshop as initial points for dialogue; or both may be used as measures for other researchers to incorporate into their own work about contemporary teaching.

For future research it would be useful to see how characteristics of the classrooms, as assessed by the rating scale, relate to students' self-perceptions and achievement measures. School administrators, teachers, and researchers are encouraged to use the classroom observation rating scale and teacher questionnaire without contacting Education Development Center (EDC) for permission, although they are asked to send to EDC copies of reports based upon the measures in order to keep the open education literature up-to-date.

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APPENDIX A

SCORING KEY

FOR THE CLASSROOM OBSERVATION RATING SCALE

AND THE TEACHER QUESTIONNAIRE

SCORING KEY

WITH WEIGHTED ITEM SCORES

FOR CLASSROOM OBSERVATION RATING SCALE AND TEACHER QUESTIONNAIRE

ITEM	POSITION 1	2	3	4	ITEM	POSITION 1	2	3	4
	(weighted score)					(weighted score)			
1	4	3	2	1	26	4	3	2	1
2	1	2	3	4	27	4	3	2	1
3	4	3	2	1	28	1	2	3	4
4	1	2	3	4	29	4	3	2	1
5	4	3	2	1	30	1	2	3	4
6	1	2	3	4	31	4	3	2	1
7	1	2	3	4	32	4	3	2	1
8	1	2	3	4	33	1	2	3	4
9	1	2	3	4	34	4	3	2	1
10	4	3	2	1	35	1	2	3	4
11	4	3	2	1	36	1	2	3	4
12	1	2	3	4	37	1	2	3	4
13	1	2	3	4	38	4	3	2	1
14	1	2	3	4	39	1	2	3	4
15	1	2	3	4	40	1	2	3	4
16	1	2	3	4	41	1	2	3	4
17	4	3	2	1	42	1	2	3	4
18	1	2	3	4	43	4	3	2	1
19	1	2	3	4	44	1	2	3	4
20	4	3	2	1	45	4	3	2	1
21	4	3	2	1	46	1	2	3	4
22	1	2	3	4	47	1	2	3	4
23	1	2	3	4	48	1	2	3	4
24	1	2	3	4	49	4	3	2	1
25	1	2	3	4	50	1	2	3	4

APPENDIX B

CLASSROOM OBSERVATION

RATING SCALE

CLASSROOM OBSERVATION

RATING SCALE

developed for

The Pilot Communities Program

Education Development Center

Newton, Massachusetts

by

TDR Associates, Inc.

Newton, Massachusetts

under U.S. Office of Education Contract

Number OEC-1-7-062805-3963

Amendment #10

March 1971

ID_____
1._____
2._____
3._____

School_____
Classroom_____
Teacher_____
Observer_____

OBSERVATION RATING SCALE

	no evidence	weak infrequent	moderate occasional	strong frequent evidence
1. Texts and materials are supplied in class sets so that all children may have their own.	1	2	3	4
2. Each child has a space for his personal storage and the major part of the classroom is organized for common use.	1	2	3	4
3. Materials are kept out of the way until they are distributed or used under the teacher's direction.	1	2	3	4
4. Many different activities go on simultaneously.	1	2	3	4
5. Children are expected to do their own work without getting help from other children.	1	2	3	4
6. Manipulative materials are supplied in great diversity and range, with little replication.	1	2	3	4
7. Day is divided into large blocks of time within which children, with the teacher's help, determine their own routine.	1	2	3	4
8. Children work individually and in small groups at various activities.	1	2	3	4
9. Books are supplied in diversity and profusion (including reference, children's literature).	1	2	3	4

	no evidence	weak infrequent	moderate occasional	strong frequent evidence
10. Children are not supposed to move about the room without asking permission.	1	2	3	4
11. Desks are arranged so that every child can see the blackboard or teacher from his desk.	1	2	3	4
12. The environment includes materials developed by the teacher.	1	2	3	4
13. Common environmental materials are provided.	1	2	3	4
14. Children may voluntarily make use of other areas of the building and school yard as part of their school time.	1	2	3	4
15. The program includes use of the neighborhood.	1	2	3	4
16. Children use "books" written by their classmates as part of their reading and reference materials.	1	2	3	4
17. Teacher prefers that children not talk when they are supposed to be working.	1	2	3	4
18. Children voluntarily group and regroup themselves.	1	2	3	4
19. The environment includes materials developed or supplied by the children.	1	2	3	4
20. Teacher plans and schedules the children's activities through the day.	1	2	3	4
21. Teacher makes sure children use materials only as instructed.	1	2	3	4

	no evidence	weak infrequent	moderate occasional	strong frequent evidence
22. Teacher groups children for lessons directed at specific needs.	1	2	3	4
23. Children work directly with manipulative materials.	1	2	3	4
24. Materials are readily accessible to children.	1	2	3	4
25. Teacher promotes a purposeful atmosphere by expecting and enabling children to use time productively and to value their work and learning.	1	2	3	4
26. Teacher uses test results to group children for reading and/or math.	1	2	3	4
27. Children expect the teacher to correct all their work.	1	2	3	4
28. Teacher bases her instruction on each individual child and his interaction with materials and equipment.	1	2	3	4
29. Teacher gives children tests to find out what they know.	1	2	3	4
30. The emotional climate is warm and accepting.	1	2	3	4
31. The work children do is divided into subject matter areas.	1	2	3	4
32. The teacher's lessons and assignments are given to the class as a whole.	1	2	3	4
33. To obtain diagnostic information, the teacher closely observes the specific work or concern of a child and asks immediate, experience-based questions.	1	2	3	4

	no evidence	weak infrequent	moderate occasional	strong frequent evidence
34. Teacher bases her instruction on curriculum guides or text books for the grade level she teaches.	1	2	3	4
35. Teacher keeps notes and writes individual histories of each child's intellectual, emotional, physical development.	1	2	3	4
36. Teacher has children for a period of just one year.	1	2	3	4
37. The class operates within clear guidelines made explicit.	1	2	3	4
38. Teacher takes care of dealing with conflicts and disruptive behavior without involving the group.	1	2	3	4
39. Children's activities, products, and ideas are reflected abundantly about the classroom.	1	2	3	4
40. The teacher is in charge.	1	2	3	4
41. Before suggesting any extension or redirection of activity, teacher gives diagnostic attention to the particular child and his particular activity.	1	2	3	4
42. The children spontaneously look at and discuss each other's work.	1	2	3	4
43. Teacher uses tests to evaluate children and rate them in comparison to their peers.	1	2	3	4
44. Teacher uses the assistance of someone in a supportive, advisory capacity.	1	2	3	4
45. Teacher tries to keep all children within her sight so that she can make sure they are doing what they are supposed to do.	1	2	3	4

	no evidence	weak infrequent	moderate occasional	strong frequent evidence
46. Teacher has helpful colleagues with whom she discusses teaching.	1	2	3	4
47. Teacher keeps a collection of each child's work for use in evaluating his development.	1	2	3	4
48. Teacher views evaluation as information to guide her instruction and provisioning for the classroom.	1	2	3	4
49. Academic adhievement is the teacher's top priority for the children.	1	2	3	4
50. Children are deeply involved in what they are doing.	1	2	3	4

APPENDIX C

TEACHER QUESTIONNAIRE

TEACHER QUESTIONNAIRE

developed for

The Pilot Communities Program

Education Development Center

Newton, Massachusetts

by

TDR Associates, Inc.

Newton, Massachusetts

under U.S. Office of Education Contract

Number OEC-1-7-062805-3963

Amendment #10

March 1971

School _____

Classroom _____

Teacher _____

3. _____

QUESTIONNAIRE

Instructions: For each of the following statements, circle the number which most closely expresses your estimate of the extent to which the statement is true of your own classroom. If the statement is absolutely not the case, circle "1"; if it is very minimally true, choose "2." If the statement generally describes your classroom, choose "3"; if it is absolutely true choose "4."

	strongly disagree	disagree	agree	strongly agree
1. Texts and materials are supplied in class sets so that all children may have their own.	1	2	3	4
2. Each child has a space for his personal storage and the major part of the classroom is organized for common use.	1	2	3	4
3. Materials are kept out of the way until they are distributed or used under my direction.	1	2	3	4
4. Many different activities go on simultaneously.	1	2	3	4
5. Children are expected to do their own work without getting help from other children.	1	2	3	4
6. Manipulative materials are supplied in great diversity and range, with little replication.	1	2	3	4
7. The day is divided into large blocks of time within which children, with my help, determine their own routine.	1	2	3	4
8. Children work individually and in small groups at various activities.	1	2	3	4

	strongly disagree	disagree	agree	strongly agree
9. Books are supplied in diversity and profusion (including reference books, children's literature).	1	2	3	4
10. Children are not supposed to move about the room without asking permission.	1	2	3	4
11. Desks are arranged so that every child can see the blackboard or teacher from his desk.	1	2	3	4
12. The environment includes materials I have developed.	1	2	3	4
13. Common environmental materials are provided.	1	2	3	4
14. Children may voluntarily use other areas of the building and schoolyard as part of their school time.	1	2	3	4
15. Our program includes use of the neighborhood.	1	2	3	4
16. Children use "books" written by their classmates as part of their reading and reference materials.	1	2	3	4
17. I prefer that children not talk when they are supposed to be working.	1	2	3	4
18. Children voluntarily group and regroup themselves.	1	2	3	4
19. The environment includes materials developed or supplied by the children.	1	2	3	4
20. I plan and schedule the children's activities through the day.	1	2	3	4
21. I make sure children use materials only as instructed.	1	2	3	4

	strongly disagree	disagree	agree	strongly agree
22. I group children for lessons directed at specific needs.	1	2	3	4
23. Children work directly with manipulative materials.	1	2	3	4
24. Materials are readily accessible to children.	1	2	3	4
25. I promote a purposeful atmosphere by expecting and enabling children to use time productively and to value their work and learning.	1	2	3	4
26. I use test results to group children in reading and/or math.	1	2	3	4
27. Children expect me to correct all their work.	1	2	3	4
28. I base my instruction on each individual child and his interaction with materials and equipment.	1	2	3	4
29. I give children tests to find out what they know.	1	2	3	4
30. The emotional climate is warm and accepting.	1	2	3	4
31. The work children do is divided into subject matter areas.	1	2	3	4
32. My lessons and assignments are given to the class as a whole.	1	2	3	4
33. To obtain diagnostic information, I observe the specific work or concern of a child closely and ask immediate, experience-based questions.	1	2	3	4

	strongly disagree	disagree	agree	strongly agree
34. I base my instruction on curriculum guides or the text books for the grade level I teach.	1	2	3	4
35. I keep notes and write individual histories of each child's intellectual, emotional, and physical development.	1	2	3	4
36. I have children for just one year.	1	2	3	4
37. The class operates within clear guidelines, made explicit.	1	2	3	4
38. I take care of dealing with conflicts and disruptive behavior without involving the group.	1	2	3	4
39. Children's activities, products and ideas are reflected abundantly about the classroom.	1	2	3	4
40. I am in charge.	1	2	3	4
41. Before suggesting any extension or redirection of activity, I give diagnostic attention to the particular child and his particular activity.	1	2	3	4
42. The children spontaneously look at and discuss each other's work.	1	2	3	4
43. I use tests to evaluate children and rate them in comparison to their peers.	1	2	3	4
44. I use the assistance of someone in a supportive advisory capacity.	1	2	3	4
45. I try to keep all children within my sight so that I can be sure they are doing what they are supposed to do.	1	2	3	4

	strongly disagree	disagree	agree	strongly agree
46. I have helpful colleagues with whom I discuss teaching ideas.	1	2	3	4
47. I keep a collection of each child's work for use in evaluating his development.	1	2	3	4
48. Evaluation provides information to guide my instruction and provisioning for the classroom.	1	2	3	4
49. Academic achievement is my top priority for the children.	1	2	3	4
50. Children are deeply involved in what they are doing through the day.	1	2	3	4

Teacher's name _____

School _____

Location _____

Present position: permanent _____

provisional _____

temporary _____

Age: 20-25_____ 41-50_____

26-30_____ 51-60_____

31-40_____ over 60____

Education (check all applicable): Normal school degree _____

Bachelor's degree _____

Master's degree _____

Other (specify) _____

Address: in locality of school _____

elsewhere _____

Your classroom:

Grade level (check one)

Kindergarten_____	Ungraded 1-3_____	Ungraded K & 1_____
1st grade_____	Ungraded 1 & 2_____	Ungraded k-2_____.
2nd grade_____	Ungraded 2 & 3_____	Ungraded k-3_____

Ability range: streamed/ability grouped_____

mixed ability grouping _____

Number of children _____

Racial composition: white _____
(give approximate %)

nonwhite _____

APPENDIX D

ITEM MEANS AND POINT BI-SERIAL CORRELATIONS

CLASSROOM OBSERVATION MEASURE

TABLE 4

ITEM MEANS AND POINT BI-SERIAL CORRELATIONS
FOR COMPARISON GROUPS ON THE OBSERVATION MEASURE

	Bi-serial Correlation	Average Observations Score[1] U.S. Traditional n=21 Mean	s.d.	U.S. Open n=21 Mean	s.d.	British Open n=20 Mean	s.d.
1. Texts and materials are supplied in class sets so that all children may have their own.	-.759**	3.33	0.65	1.76	0.82	1.53	0.59
2. Each child has a space for his personal storage and the major part of the classroom is organized for common use.	.730**	2.41	0.75	3.78	0.45	3.53	0.38
3. Materials are kept out of the way until they are distributed or used under the teacher's direction.	-.808**	3.14	0.71	1.44	0.56	1.43	0.52
4. Many different activities go on simultaneously.	.877*	2.19	0.61	3.75	0.40	3.95	0.15
5. Children are expected to do their own work without getting help from other children.	-.689**	2.71	0.83	1.54	0.58	1.30	0.50
6. Manipulative materials are supplied in great diversity and range, with little replication.	.782**	2.06	0.72	3.51	0.49	3.43	0.33

[1] In the United States, there were three observations per classroom; while in England there were two observations per classroom.

* $p < .05$ Correlation between variable "open classroom" and individual item score.

** $p < .01$ Correlation between variable "open classroom" and individual item score.

	Bi-serial Correlation	Average Observations Score: U.S. Traditional n=21 Mean	s.d.	U.S. Open n=11 Mean	s.d.	British Open n=20 Mean	s.d.
7. Day is divided into large blocks of time within which children, with the teacher's help, determine their own routine.	.829**	1.65	0.56	3.30	0.50	3.47	0.62
8. Children work individually and in small groups at various activities	.796**	2.43	0.66	3.71	0.52	3.90	0.21
9. Books are supplied in diversity and profusion (including reference, children's literature).	.327**	2.79	0.64	3.43	0.47	3.00	0.59
10. Children are not supposed to move about the room without asking permission.	-.676**	2.41	0.87	1.09	0.30	1.30	0.62
11. Desks are arranged so that every child can see the blackboard or teacher from his desk.	-.902**	3.84	0.39	1.52	0.63	1.35	0.61
12. The environment includes materials developed by the teacher.	.192	3.14	0.47	3.48	0.47	3.25	0.68
13. Common environmental materials are provided.	.698**	2.09	0.76	3.52	0.55	3.30	0.62
14. Children may voluntarily make use of other areas of the building and school yard as part of their school time.	.601**	1.62	0.69	3.14	0.71	2.60	0.93
15. The program includes use of the neighborhood.	.237	1.57	0.59	2.02	0.77	1.80	0.66
16. Children use "books" written by their classmates as part of their reading and reference materials.	.543**	1.41	0.68	2.45	0.91	2.57	0.86
17. Teacher prefers that children not talk when they are supposed to be working	-.648**	2.59	0.84	1.33	0.54	1.43	0.65

	Bi-serial Correlation	Average Observations Score: U.S. Traditional n=21 Mean	s.d.	U.S. Open n=21 Mean	s.d.	British Open n=20 Mean	s.d.
18. Children voluntarily group and regroup themselves.	.767**	1.84	0.83	3.48	0.51	3.37	0.53
19. The environment includes materials developed or supplied by the children.	.604**	2.11	0.71	3.38	0.61	3.00	0.71
20. Teacher plans and schedules the children's activities through the day.	-.762**	3.73	0.34	2.41	0.55	2.70	0.50
21. Teacher makes sure children use materials only as instructed.	-.642**	3.06	0.77	1.78	0.57	1.97	0.70
22. Teacher groups children for lessons directed at specific needs.	-.232	3.13	0.58	3.00	0.72	2.55	0.72
23. Children work directly with manipulative materials.	.783**	2.19	0.75	3.71	0.51	3.65	0.40
24. Materials are readily accessible to children.	.791**	2.38	0.87	3.81	0.31	3.93	0.25
25. Teacher promotes a purposeful atmosphere by expecting and enabling children to use time productively and to value their work and learning.	.330**	2.98	0.53	3.27	0.51	3.43	0.44
26. Teacher uses test results to group children for reading and/or math.	-.663**	2.24	0.72	1.36	0.44	1.17	0.33
27. Children expect the teacher to correct all their work.	-.584**	3.25	0.53	2.37	0.61	2.37	0.65
28. Teacher bases her instruction on each individual child and his interaction with materials and equipment.	.511**	2.32	0.69	3.31	0.61	2.93	0.61

	Bi-serial Correlation	Average Observations Score: U.S. Traditional n=21 Mean	s.d.	U.S. Open n=21 Mean	s.d.	British Open n=20 Mean	s.d.
29. Teacher gives children tests to find out what they know.	-.759**	2.52	0.73	1.32	0.48	1.15	0.29
30. The emotional climate is warm and accepting.	.321*	2.97	0.59	3.52	0.65	3.37	0.81
31. The work children do is divided into subject matter areas.	-.721**	3.76	0.37	2.78	0.62	2.35	0.56
32. The teacher's lessons and assignments are given to the class as a whole.	-.795**	3.02	0.55	1.33	0.33	1.65	0.71
33. To obtain diagnostic information, the teacher closely observes the specific work or concern of a child and asks immediate, experience-based questions.	.390**	2.44	0.76	3.25	0.54	2.82	0.65
34. Teacher bases her instruction on curriculum guides or text books for the grade level she teaches.	-.680**	3.06	0.60	1.87	0.88	1.57	0.52
35. Teacher keeps notes and writes individual histories of each child's intellectual, emotional, physical development.	.054	1.95	0.72	1.83	0.84	2.27	0.88
36. Teacher has children for a period of just one year.	-.793**	3.40	0.59	1.48	0.54	1.60	0.90
37. The class operates within clear guidelines made explicit.	-.281*	3.40	0.51	2.98	0.60	3.12	0.58
38. Teacher takes care of dealing with conflicts and disruptive behavior without involving the group.	-.251*	2.67	.062	2.49	0.50	2.10	0.84

	Bi-serial Correlation	Average Observations Score					
		U.S. Traditional n=21		U.S. Open n=21		British Open n=20	
		Mean	s.d.	Mean	s.d.	Mean	s.d.
39. Children's activities, products, and ideas are reflected abundantly about the classroom.	.698**	2.22	0.66	3.59	0.58	3.30	0.55
40. The teacher is in charge.	-.016	3.63	0.38	3.55	0.41	3.70	0.34
41. Before suggesting any extension or redirection of activity, teacher gives diagnostic attention to the particular child and his particular activity.	.493**	2.17	0.72	3.06	0.61	2.80	0.57
42. The children spontaneously look at and discuss each other's work.	.589**	2.63	0.73	3.60	0.45	3.55	0.67
43. Teacher uses tests to evaluate children and rate them in comparison to their peers.	-.779**	2.17	0.63	1.14	0.25	1.10	0.21
44. Teacher uses the assistance of someone in a supportive, advisory capacity.	.012	1.86	0.87	2.17	0.82	1.58	0.63
45. Teacher tries to keep all children within her sight so that she can make sure they are doing what they are supposed to do.	-.597**	2.91	0.97	1.42	0.61	1.90	0.74
46. Teacher has helpful colleagues with whom she discusses teaching.	.309*	1.84	0.83	2.11	0.73	2.67	0.78
47. Teacher keeps a collection of each child's work for use in evaluating his development.	-0.44	2.13	0.65	2.06	0.70	2.05	0.95
48. Teacher views evaluation as information to guide her instruction and provisioning for the classroom.	.500**	2.17	0.59	2.87	0.59	2.77	0.55

	Bi-serial Correlation	Average Observations Score: U.S. Traditional n=21 Mean	s.d.	U.S. Open n=21 Mean	s.d.	British Open n=20 Mean	s.d.
49. Academic achievement is the teacher's top priority for the children.	-.472**	2.98	0.65	2.22	0.63	2.30	0.68
50. Children are deeply involved in what they are doing.	.425**	2.71	0.60	3.25	0.45	3.20	0.52
Total mean score		117.46		163.17		160.80	
Total s.d. score		19.59		14.08		13.07	
Standard error of measurement		5.182		5.193		4.602	

APPENDIX E

ITEM MEANS AND POINT BI-SERIAL CORRELATIONS

TEACHER QUESTIONNAIRE

TABLE 5

ITEM MEANS AND POINT BI-SERIAL CORRELATIONS
FOR COMPARISON GROUPS ON THE TEACHER QUESTIONNAIRE

	Bi-serial Correlation	U.S. Traditional n=21		U.S. Open n=21		British Open n=20	
		Mean	s.d.	Mean	s.d.	Mean	s.d.
1. Texts and materials are supplied in class sets so that all children may have their own.	-.630**	3.05	0.74	1.81	1.08	1.65	0.74
2. Each child has a space for his personal storage and the major part of the classroom is organized for common use.	.677**	3.61	0.59	3.76	0.54	3.35	1.09
3. Materials are kept out of the way until they are distributed or used under my direction.	-.713**	2.24	1.00	1.48	0.60	1.40	0.60
4. May different activities go on simultaneously.	.731*	2.95	0.80	3.90	0.30	3.95	0.22
5. Children are expected to do their own work without getting help from other children.	-.630**	2.24	0.70	1.24	0.44	1.80	0.70
6. Manipulative materials are supplied in great diversity and range, with little replication.	.789**	2.38	0.74	3.19	0.68	3.30	0.86
7. The day is divided into large blocks of time within which children, with my help, determine their own routine.	.650**	2.33	0.91	3.14	0.96	3.55	0.51

*$p < .05$ Correlation between variable "open classroom" and individual item score.

**$p < .01$ Correlation between variable "open classroom" and individual item score.

	Bi-serial Correlation	U.S. Traditional n=21		U.S. Open n=21		British Open n-20	
		Mean	s.d.	Mean	s.d.	Mean	s.d.
8. Children work individually and in small groups at various activities.	.702**	3.24	0.77	3.86	0.36	3.75	0.44
9. Books are supplied in diversity and profusion (including reference books, children's literature).	.507**	3.29	0.90	3.71	0.46	3.55	0.76
10. Children are not supposed to move about the room without asking permission.	-.652**	1.95	1.16	1.10	0.44	1.15	0.67
11. Desks are arranged so that every child can see the blackboard or teacher from his desk.	-.653**	3.38	0.87	1.33	0.73	1.65	0.88
12. The environment includes materials I have developed.	.323	3.48	0.75	3.52	0.68	3.30	0.73
13. Common environmental materials are provided.	.723**	3.24	0.62	3.57	0.60	3.55	0.51
14. Children may voluntarily use other areas of the building and schoolyard as part of their school time.	.685**	2.10	1.04	3.48	0.60	3.50	0.69
15. Out program includes use of the neighborhood.	.332	2.48	1.08	3.14	0.85	3.40	0.68
16. Children use "books" written by their classmates as part of their reading and reference materials.	.510**	1.86	0.66	3.24	0.77	3.25	0.64
17. I prefer that children not talk when they are supposed to be working.	-.651**	2.57	0.87	1.33	0.80	1.45	0.76

	Bi-serial Correlation	U.S. Traditional n=21		U.S. Open n=21		British Open n=20	
		Mean	s.d.	Mean	s.d.	Mean	s.d.
18. Children voluntarily group and regroup themselves.	.685**	2.29	0.84	3.67	0.58	3.15	0.67
19. The environment includes materials developed or supplied by the children.	.635**	2.52	0.87	3.76	0.54	3.50	0.61
20. I plan and schedule the children's activities through the day.	-.627**	2.95	0.74	1.90	0.77	2.40	0.82
21. I make sure children use materials only as instructed.	-.669**	2.00	0.89	1.48	0.75	1.55	0.51
22. I group children for lessons directed at specific needs.	-.066	3.43	0.60	3.38	0.59	3.00	0.72
23. Children work directly with manipulative materials.	.741**	3.14	0.79	3.81	0.40	3.50	0.51
24. Materials are readily accessible to children.	.746**	3.29	0.78	3.90	0.30	3.75	0.44
25. I promote a purposeful atmosphere by expecting and enabling children to use time productively and to value their work and learning.	.465**	3.67	0.58	3.71	0.56	3.70	0.47
26. I use test results to group children in reading and/or math.	-.510**	2.10	0.77	1.52	0.81	1.70	0.92
27. Children expect me to correct all their work.	-.500**	2.71	0.78	1.81	0.81	2.45	0.83
28. I base my instruction on each individual child and his interaction with materials and equipment.	.560**	3.10	0.93	3.71	0.46	3.60	0.50

	Bi-serial Correlation	U.S. Traditional n=21		U.S. Open n=21		British Open n=20	
		Mean	s.d.	Mean	s.d.	Mean	s.d.
29. I give children tests to find out what they know.	-.716**	2.52	0.93	1.76	0.94	2.10	0.97
30. The emotional climate is warm and accepting.	.433*	3.43	0.60	3.86	0.36	3.65	0.59
31. The work children do is divided into subject matter areas.	-.605**	2.95	0.67	2.24	1.04	2.15	1.14
32. My lessons and assignments are given to the class as a whole.	-.719**	2.48	0.60	1.38	0.59	1.70	1.03
33. To obtain diagnostic information, I observe the specific work or concern of a child closely and ask immediate, experience-based questions.	.449**	3.24	0.54	3.48	0.68	3.45	0.51
34. I base my instruction on curriculum guides or the text books for the grade level I teach.	-.604**	2.90	0.77	1.86	0.85	2.00	0.86
35. I keep notes and write individual histories of each child's intellectual, emotional, and physical development.	-.013	2.67	0.80	3.05	0.97	3.60	0.60
36. I have children for just one year.	-.595**	3.43	0.81	1.86	1.20	2.40	1.23
37. The class operates within clear guidelines make explicit.	-.212*	3.00	0.71	2.76	0.83	2.95	0.94
38. I take care of dealing with conflicts and disruptive behavior without involving the group.	-.150*	2.86	0.73	2.81	1.03	3.35	0.67

	Bi-serial Correlation	U.S. Traditional n=21		U.S. Open n=21		British Open n=20	
		Mean	s.d.	Mean	s.d.	Mean	s.d.
39. Children's activities, products and ideas are reflected abundantly about the classroom.	.647**	3.38	0.74	3.76	0.44	3.80	0.41
40. I am in charge.	-.023	2.90	0.77	2.81	0.98	3.45	0.60
41. Before suggesting any extension or redirection of activity, I give diagnositic attention to the particular child and his particular activity.	.546**	2.90	0.62	3.10	0.70	3.30	0.80
42. The children spontaneously look at and discuss each other's work.	.560**	3.29	0.72	3.57	0.51	3.55	0.51
43. I use tests to evaluate children and rate them in comparison to their peers.	_.684**	2.24	0.77	1.29	0.46	1.45	0.69
44. I use the assistance of someone in a supportive advisory capacity.	.221	2.81	0.98	3.43	0.68	2.55	1.00
45. I try to keep all children within my sight so that I can be sure they are doing what they are supposed to do.	-649**	2.57	0.75	1.67	0.73	2.70	0.86
46. I have helpful colleagues with whom I discuss teaching ideas.	.309**	3.57	0.75	3.90	0.30	3.90	0.31
47. I keep a collection of child's work for use in evaluating his development.	-.100	2.76	0.83	3.00	0.95	3.85	0.37
48. Evaluation provides information to guide my instruction and provisioning for the classroom.	.515**	3.52	0.60	3.33	0.73	3.50	0.61

	Bi-serial Correlation	U.S. Traditional n=21 Mean	s.d.	U.S. Open n=21 Mean	s.d.	British Open n=20 Mean	s.d.
49. Academic achievement is my top priority for the children.	-.550**	2.29	0.84	1.76	0.77	2.00	0.72
50. Children are deeply involved in what they are doing through the day.	.600**	3.24	0.62	3.48	0.60	3.60	0.50

Total mean score	145.52	175.10	170.55
Total s.d. score	13.73	12.24	11.99
Standard error of measurement	5.245	4.770	4.857